Appl. No. 10/665,865
Reply to Office Action of October 24, 2005

This listing of claims will replace all prior versions, and

listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled).

Claim 2 (Currently Amended): A method of producing a high

carbon steel sheet, comprising the steps of:

hot rolling a steel having chemical composition specified by

JIS G 4051, JIS G 4401 or JIS G 4802,

coiling the hot rolled steel sheet at 520 to 600 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at 640 to 690 °C for 20

hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of

50 % or more, and

annealing the cold rolled steel sheet at 620 to 680 °C

(secondary annealing), and

~~The method as set forth in claim 1,~~ wherein the temperature

T1 of the primary annealing and the temperature T2 of the

secondary annealing satisfy the following formula (1),

$$1024 - 0.6 \times T1 \leq T2 \leq 1202 - 0.80 \times T1 \ldots (1).$$

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Claim 3 (Original):   A method of producing a high carbon steel sheet, comprising the steps of:

continuously casting into slab a steel having chemical composition specified by JIS G 4051, JIS G 4401 or JIS G 4802,

rough rolling the slab to sheet bar without reheating the slab or after reheating the slab cooled to a certain temperature,

finish rolling the sheet bar after reheating the sheet bar to Ar3 transformation point or higher,

coiling the finish rolled steel sheet at 500 to 650 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at a temperature T1 of 630 to 700 °C for 20 hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of 50 % or higher, and

annealing the cold rolled steel sheet at a temperature T2 of 620 to 680 °C (secondary annealing),

wherein the temperature T1 and the temperature T2 satisfy the following formula (2),

$$1010 - 0.59 \times T1 \leq T2 \leq 1210 - 0.80 \times T1 \ldots (2).$$

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Claim 4 (Canceled).

Claim 5 (New): A method of producing a high carbon steel sheet, comprising the steps of:

continuously casting into slab a steel having chemical composition specified by JIS G 4051, JIS G 4401 or JIS G 4802,

rough rolling the slab to sheet bar without reheating the slab or after reheating the slab cooled to a certain temperature,

finish rolling the sheet bar during reheating the rolled sheet bar to Ar3 transformation point or higher,

coiling the finish roiled steel sheet at 500 to 650 °C,

descaling the coiled steel sheet,

annealing the descaled steel sheet at a temperature T1 of 630 to 700 °C for 20 hr or longer (primary annealing),

cold rolling the annealed steel sheet at a reduction rate of 50 % or higher, and

annealing the cold rolled steel sheet at a temperature T2 of 620 to 680 °C (secondary annealing),

wherein the temperature T1 and the temperature T2 satisfy the following formula (2)

$$1010 - 0.59 \times T1 \leq T2 \leq 1210 - 0.80 \times T1 \quad \ldots \quad (2).$$

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